



TESTING CAPABILITIES

Mechanical Testing including but not limited to:

Tension - ASTM D638, D3039, D5083

Flexure - ASTM D790

Compression – ASTM D695, D6641

V-Notched Rail Shear – ASTM D7078

Short Beam Shear – ASTM D2344

Izod Impact Notched and Unnotched – ASTM D256, D4812

Sandwich Core Shear Properties – ASTM C273

Sandwich Core Flatwise Compression – ASTM C365

Sandwich Construction Flatwise Tensile – ASTM C297

Sandwich Construction Core Shear Properties – ASTM C393

Sandwich Construction Facing Properties – ASTM D7249

Sandwich Construction Beam Flexural and Shear Stiffness – ASTM D7250

Material Properties Testing:

Thermal Analysis

TMA: Linear Thermal Expansion – ASTM E831

Glass Transition Temperature – ASTM E1545

DMA: Glass Transition Temperature – ASTM E1640, D7028

Heat Distortion Testing – ASTM D648 by DMA

DSC: Glass Transition Temperature – ASTM E1356, E2602 (MDSC)

Degree of Cure – ASTM E2160

Specific Heat Capacity – ASTM E2716 (MDSC)

continued on back

Notes:

- Testing performed by the CIC is non-accredited
- Strain monitoring options include strain gauges or an integrated axial and transverse extensometer system



Material Properties Testing Continued:

Constituent Content

Acid Digestion – ASTM D3171, Procedure A (nitric acid) and Procedure B (sulfuric acid)

Oven Burn-off – ASTM D3171, Procedure G (for reinforcements that do not degrade at higher temperatures)

Density Determination

Density and Specific Gravity of Plastics – ASTM D792

Density of High Modulus Fibres – ASTM D3800

Viscosity Testing

Brookfield (Dynamic Viscosity)

Gel Time/Peak Exotherm

Gel Time and Peak Exothermic Temperature of Reacting Thermosetting Resins – ASTM D2471

Shrinkage from Cure

Linear and Volumetric

Visual Inspection

Microscopy – Qualitative and quantitative section analysis

Specimen Preparation:

Machining of specimens for above listed mechanical testing and thermal analysis testing

Custom machining and sectioning available using HAAS VF-2 CNC mill and Labcut diamond wafering saw

Environmental conditioning (-40°C to 180°C, 5-98% RH)

158 Commerce Drive
Winnipeg, MB, Canada
R3P 0Z6

T: 204 262 3400
F: 204 262 3409
testing@compositesinnovation.ca